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EXAMINER

RYMAN, DANIEL J

ART UNIT	PAPER NUMBER
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2665

DATE MAILED: 04/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/590,780

Applicant(s)

ELZIND, IHAB H.

Examiner

Daniel J. Ryman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2/13/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 14 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 16, and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 June 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,5,6,10. 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: reg. 116 (see page 4, line 2 and Fig. MM-2). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: ref. 103 (see page 5, lines 22-26) and ref. 108 (see page 5, lines 18-21). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "100" has been used to designate both a cell and a GPS satellite. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
4. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

5. The disclosure is objected to because of the following informalities: on page 1, line 9 “cellular data network 50” should be “cellular data network 49” to match Fig. 1 and on page 5, line 7 “The BIF unit 158” should be “The BIF unit 153” to match Fig. MM-3.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 1-10 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 1-10 are directed towards a cellular data packet. A data packet is not a process, machine, manufacture, or composition of matter. Rather a data packet is a data structure which is “functional descriptive material”, see MPEP § 2106(IV). Citing “functional descriptive material” *per se* in a claim is held to be non-statutory since the function of the “functional descriptive material” cannot be realized. For the purposes of prior art rejections, claim 1 will be interpreted to read “A cellular data packet for use on wireless links in a cellular network” in place of “A cellular data packet.”

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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9. Claims 1, 2, and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stiller et al (USPN 6,130,881) in view of Terry (USPN 6,178,161).

10. Regarding claim 1, Stiller discloses a cellular data packet for use on wireless links in a cellular network, comprising: a destination address (DA) (col. 5, lines 35-43); a source address (SA) (transmitter identified by inserting transmitter's assigned number) (col. 5, lines 35-43); a routing information block (RIB) (col. 5, lines 35-43); and an informational field (col. 5, lines 35-43) where it is implicit that the packet contains an information field. Stiller does not expressly disclose that the packet contains a preamble for collision determination and synchronization or a start-of-frame delimiter (SFD). Terry teaches, in a data communication system which supports IP packets, that it is well known to have a preamble and SFD (col. 5, lines 43-47 and col. 6, line 43-col. 7, line 2) where Examiner takes official notice that it is well known to use a preamble for collision detection and synchronization. It would have been obvious to one of ordinary skill in the art at the time of the invention to include a preamble for collision determination and synchronization and a start-of-frame delimiter (SFD) since these fields are well known.

11. Regarding claim 2, referring to claim 1, Stiller in view of Terry discloses that the informational field comprises: a type field for indicating whether said packet is a control packet or a service packet (Terry: col. 6, line 43-col. 7, line 2) where the type field indicates a data packet and Examiner takes official notice that it is well known to use a type field to indicate control or data (service) packets; a data field (Terry: col. 6, line 43-col. 7, line 2); and a cyclic redundancy check (CRC) field, including error detection and correction information (Terry: col. 6, line 43-col. 7, line 2). Stiller in view of Terry does not expressly disclose a status field; however, Examiner takes official notice that status fields are well known in the art.

12. Regarding claim 7, referring to claim 1, Stiller in view of Terry suggests that the routing information block indicates a routing path of said packet from said transmitting/receiving user station to said base station (Stiller: col. 1, line 19-col. 2, line 64). Stiller in view of Terry discloses the use of cellular networks which utilize base stations and which are subject to limited transmission range and the use of ad hoc networks which extent the transmission range by relaying messages through other nodes. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the routing information block indicates a routing path of said packet from said transmitting/receiving user station to said base station in order to allow a node to communicate with a base station even if the node is out of range of the base station.

13. Regarding claim 8, referring to claim 7, Stiller in view of Terry does not disclose that the routing information block is configured to indicate up to ten routing links between said transmitting station and said base station; however, Stiller in view of Terry discloses that the routing information block is configured to indicate one routing link between said transmitting station and said base station (Stiller: col. 2, lines 56-64). It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Stiller in view of Terry discloses that the routing information block is configured to indicate a maximum number

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of routing links (one link) between said transmitting station and said base station, indicating up to any number of links, including ten links, would have been obvious, absent a showing of criticality by Applicant.

14. Regarding claim 9, referring to claim 1, Stiller in view of Terry discloses the packet is a variable-length data packet (Terry: col. 6, line 43-col. 7, line 2).

15. Regarding claim 10, referring to claim 9, Stiller in view of Terry does not expressly disclose that the packet has a maximum byte-length of 512 bytes; however, Stiller in view of Terry does disclose that the packet has a maximum value (Terry: col. 6, line 43-col. 7, line 2). It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Stiller in view of Terry discloses that the packet has a maximum value, any maximum value, including 512 bytes, would have been obvious, absent a showing of criticality by Applicant.

16. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stiller et al (USPN 6,130,881) in view of Terry (USPN 6,178,161) as applied to claim 1 above, and further in view of O'Dowd (USPN 5,235,595).

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17. Regarding claim 3, referring to claim 2, Stiller in view of Terry does not expressly disclose that the type field comprises: a two-byte protocol identifier; a two-byte sub-protocol identifier; and a two-byte service identifier. O'Dowd teaches, in a packet-switching communication system, having a type field comprise: a protocol identifier (packet type subfield), a sub-protocol identifier (socket address subfield), and a service identifier (QoS subfield) (col. 1, lines 9-36 and col. 8, lines 44-55). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a protocol identifier, a sub-protocol identifier, and a service identifier in order to indicate to a receiver the protocol, sub-protocol, and service information. Stiller in view of Terry in further view of O'Dowd does not expressly disclose that the identifiers are two-bytes; however, Stiller in view of Terry in further view of O'Dowd does disclose that the identifiers have a length. It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Stiller in view of Terry discloses that the identifiers have a length, any length, including two bytes, would have been obvious, absent a showing of criticality by Applicant.

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18. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stiller et al (USPN 6,130,881) in view of Terry (USPN 6,178,161) as applied to claim 1 above, and further in view of Mahany et al (USPN 5,657,317).

19. Regarding claim 4, referring to claim 2, Stiller in view of Terry does not disclose that the status field is configured to indicate whether said packet is an ACK or a NACK packet, the number of data packets pending, spread spectrum synchronization information, or whether said packet is native or routed. Mahany teaches, in a wireless network, including a status field in a packet in order to indicate to a device the operational synchronization mode (col. 15, line 66-col. 16, line 58, esp. col. 16, lines 39-58). It would have been obvious to one of ordinary skill in the art at the time of the invention to have a status field indicate spread spectrum synchronization information in order to indicate to a device the operational synchronization mode.

20. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stiller et al (USPN 6,130,881) in view of Terry (USPN 6,178,161) as applied to claim 1 above, and further in view of Ritter et al (USPN 5,570,084).

21. Regarding claims 5 and 6, referring to claim 1, Stiller in view of Terry disclose that the network can be a sub-network of a larger network (Stiller: col. 2, lines 10-19). Stiller in view of Terry does not expressly disclose that the destination address/source address comprises: a region indicator for indicating a region location of a recipient/transmitting user station; a cell identifier for indicating a cell within said region; and a cellular IP address of said recipient/transmitting user station within said cell. Ritter teaches, in a wireless packet communication network, having the destination address/source address comprises: a region indicator for indicating a region location of a recipient/transmitting user station (WAN address); a cell identifier for indicating a

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cell within said region (subnetwork address); and a cellular IP address of said recipient/transmitting user station within said cell (MAC address) in order to route a packet through a large network to a specific device (Fig. 3 and col. 4, lines 16-39). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the destination address/source address comprise: a region indicator for indicating a region location of a recipient/transmitting user station; a cell identifier for indicating a cell within said region; and a cellular IP address of said recipient/transmitting user station within said cell in order to allow devices in different cells (sub-networks) and regions (WANs) to communicate with one another.

22. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stiller et al (USPN 6,130,881).

23. Regarding claim 11, Stiller discloses a method for routing a data packet within an intelligent cellular IP network, wherein a transmitting/receiving station is outside of an originating transmitting or destination receiving cell or blocked from said originating transmitting or destination receiving cell, comprising the steps of: transmitting a data packet, including routing information indicating at least one intermediate recipient other than a destination (col. 1, line 19-col. 2, line 64); receiving of said packet by said at least one intermediate recipient (col. 1, line 19-col. 2, line 64); and transmitting said packet in accordance with said routing information from said at least one intermediate recipient to said receiving destination (col. 1, line 19-col. 2, line 64); wherein said at least one intermediate recipient is a different transmitting/receiving station within said cell (col. 1, line 19-col. 2, line 64). Stiller does not expressly disclose that the destination is a base station. However, Stiller discloses the use of cellular networks which utilize base stations and which are subject to limited transmission

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range and the use of ad hoc networks which extent the transmission range by relaying messages through other nodes. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the destination be a base station in order to allow a node to communicate with a base station even if the node is out of range of the base station.

24. Regarding claim 12, referring to claim 11, Stiller discloses that the routing information is determined from a routing table specific to each of said transmitting/receiving stations (col. 1, line 19-col. 2, line 64).

25. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stiller et al (USPN 6,130,881) as applied to claim 12 above, and further in view of Ogle et al (USPN 6,052,736).

26. Regarding claim 13, referring to claim 12, Stiller discloses that the routing table is dynamic in order to account for changes in the positions of the mobile units and environmental conditions (col. 1, line 19-col. 2, line 64; col. 5, lines 3-5; and col. 10, lines 30-65). Stiller does not expressly disclose that the routing table is static. Ogle discloses, in an IP system, that it is well known to use static routing tables since static routing tables do not require network bandwidth (col. 2, lines 20-49). It would have been obvious to one of ordinary skill in the art at the time of the invention to use static routing tables since static routing tables do not require network bandwidth.

27. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stiller et al (USPN 6,130,881) in view of Vice et al (USPN 6,108,529).

28. Regarding claim 16, Stiller discloses a radio frequency unit for transmitting/receiving data packets (col. 1, line 19-col. 2, line 64); and a cellular network routing engine based on

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cellular IP (col. 1, line 19-col. 2, line 64); wherein the node is configured to serve as a router within said cellular network (col. 1, line 19-col. 2, line 64). Stiller does not expressly disclose that the node contains a modem; however, Examiner takes official notice that communicating using a modem is very old and well known in the art. In addition, Stiller does not disclose a baseband-to-intermediate frequency conversion unit, configured to covert the baseband information from a computer into intermediate frequency information for processing by said radio frequency unit. Vice teaches, in a radio transmitter, that it is well known to have a baseband-to-intermediate frequency conversion unit, configured to covert the baseband information from a computer into intermediate frequency information for processing by said radio frequency unit (col. 1, lines 33-42). It would have been obvious to one of ordinary skill in the art at the time of the invention to have a baseband-to-intermediate frequency conversion unit, configured to covert the baseband information from a computer into intermediate frequency information for processing by said radio frequency unit since such a unit is well known in the art.

29. Regarding claim 17, referring to claim 16, Stiller in view of Vice does not expressly disclose that the radio frequency unit is configured to operate in the MMDS, LMDS, ISM, ITFS and MDS spectrums; however, Examiner takes official notice that the MMDS, LMDS, ISM, ITFS and MDS spectrums are well known in the art.

Conclusion

30. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Melnik (USPN 6,046,978) see entire document which pertains to routing data by inserting routing information into each packet.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (703)305-6970. The examiner can normally be reached on Mon.-Fri. 7:00-5:00 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (703)308-6602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel J. Ryman
Examiner
Art Unit 2665

^{DJR}
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